

Observed precipitation over the past seven days was limited to the far North Coast as shown in the observed precipitation map from the National Weather Service California Nevada River Forecast Center (NWS CNRFC) (see Figure 1). Zero precipitation is forecast for the next six days as shown in Figure 2.

CNRFC Area Observed Precipitation

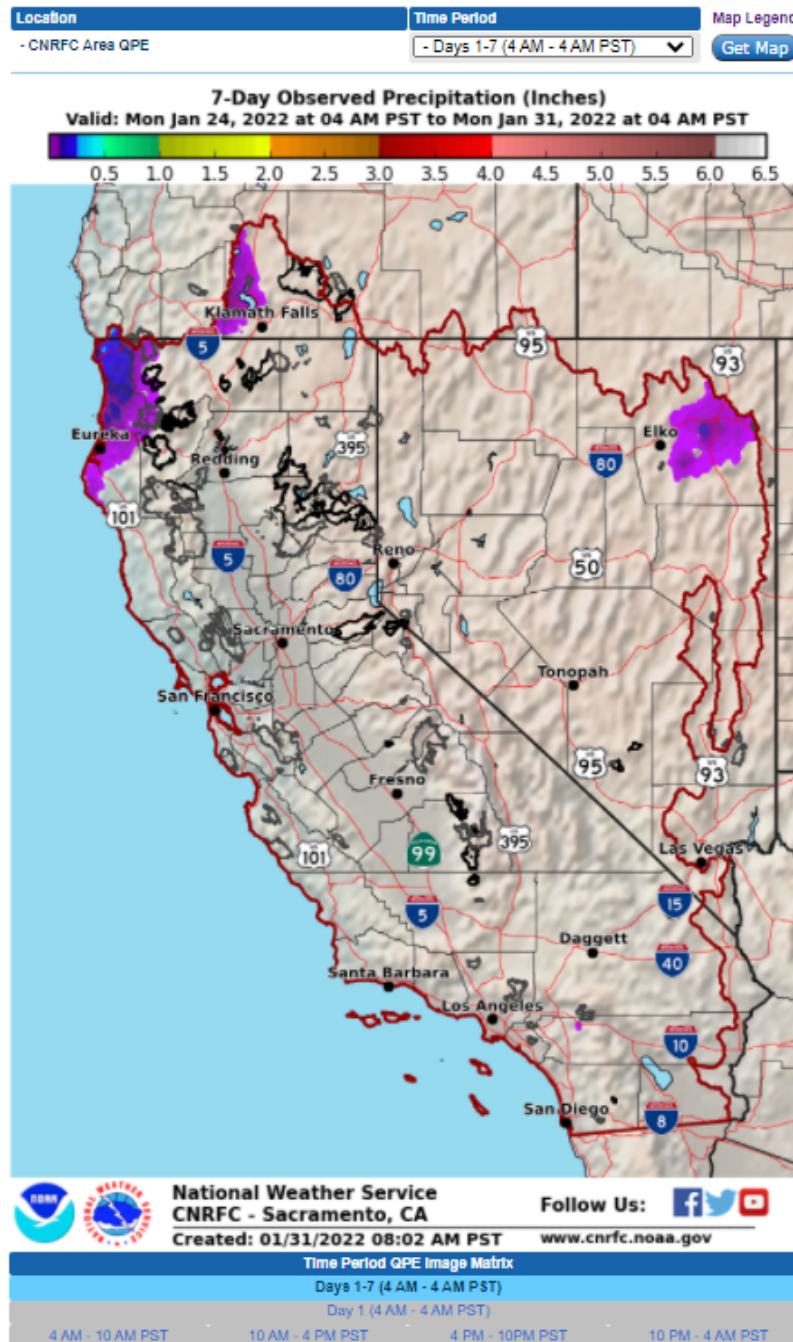


Figure 1. NWS CNRFC map of observed precipitation for the seven days spanning 1/24/22 to 1/31/22.

CNRFC Area Precipitation Forecast



Figure 2. NWS CNRFC map of forecast precipitation from 1/31/22 to 2/6/22.

Climatologically January is one of California's wettest months. Along with December and February, the 90 days on average produce half of the annual precipitation for a water year. The average statewide precipitation for January is 4.4 inches. However, 31 years have recorded less than half of average in the

126 years of record of which six have been in the 21st Century. Looking ahead to February, the first half of the month is expected to be dry as no atmospheric rivers are in the forecast as shown in the AR landfall tool from the Center for Western Weather and Water Extremes (CW3E) (See Figure 3.).

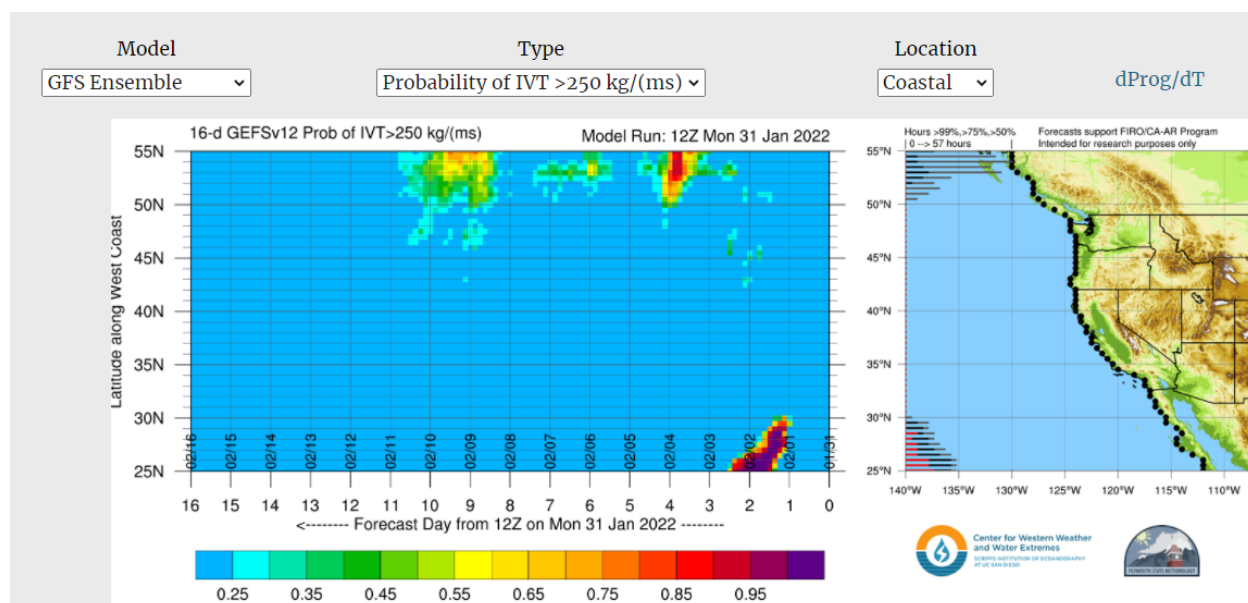


Figure 3. AR landfall tool from CW3E showing no atmospheric river activity reaching California through mid-February.

In the sub-seasonal to seasonal forecast range, we can look at an experimental object-based forecast tool that look at forecasting the location of the high-pressure system. This product is the result of a collaboration between NASA's Jet Propulsion Laboratory, DWR, and CW3E. The product looks at 3 two-week windows (week 1 and 2, weeks 3 and 4, and week 5 and 6) and tries to identify if a high-pressure system is in one of three locations that correspond to dry conditions in California. A sample graphic from this effort is shown in Figure 4 which shows the weeks 1 and 2 time period. In the graphic, the North-region ridging is forecast which corresponds to a dry western United States as indicated in the map. The bar chart shows the number of days of a ridge in that region for each of the ensemble members of the US Forecast Model from the National Center for Environmental Prediction (NCEP). The background expected value is depicted with the dashed line from a gridded data set called ERA5. It is possible that none of the regions have an object identified in the region above climatology. That is the case for the other two time periods not shown. More work is needed on this product to refine the definition of the high-pressure system as an object in the forecast models and in relationships in the defined regions which were developed with historical data. The good news is that there is uncertainty in the weather outcomes for the second half of February. One strong atmospheric river could produce average or greater precipitation for the regions it impacts. Next update will be on 2/7/22.

Forecast Period: Weeks 1 & 2 ▾

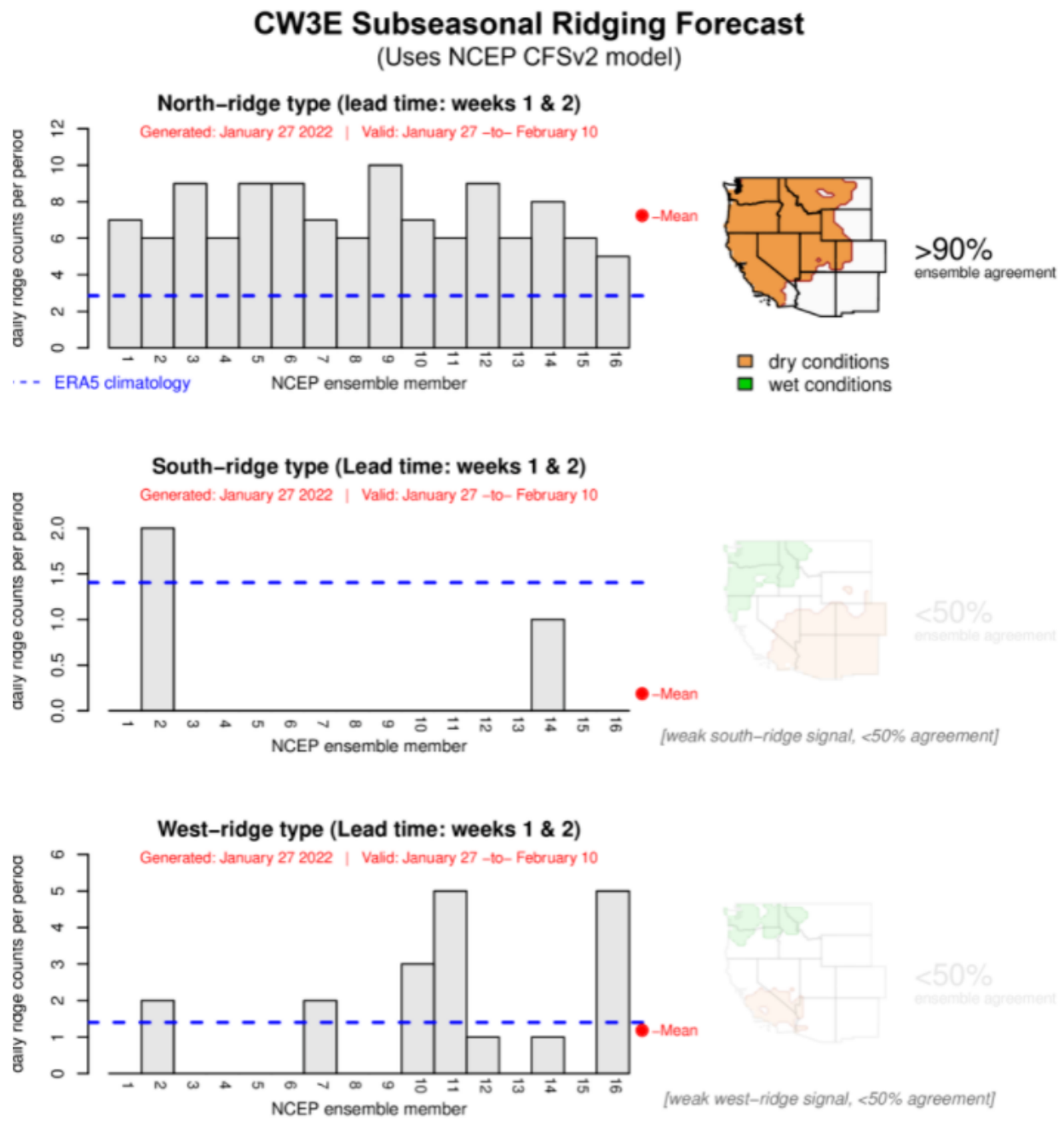


Figure 4. High-pressure system object forecast product resulting from NASA/DWR/CW3E collaboration.